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# Troubleshooting Common Issues on the Catalyst 2900XL and 3500XL Series Switches

Document ID: 29200

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## **Introduction**

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- Troubleshoot and Understand POST Failure Messages
- Troubleshoot Fan Failures
- Troubleshoot System Error Messages
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- Expansion Slot Module Is Not Working
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### **Troubleshoot Console Connectivity Problems**

- Unreadable Characters on the Management Console
- No Connectivity Through the Console

### **Troubleshoot General Software Issues**

- Recover from Missing or Corrupted Software or Switch: Prompt
- Troubleshoot Cisco Visual Switch Manager or Cluster Management Suite
- Hardware and Software Compatibility or Software Feature Support
- Recover Lost Password

### **Diagnostic Commands**

- show interface
- show controllers ethernet-controller
- show env fan
- show logging

### **NetPro Discussion Forums – Featured Conversations**

# Introduction

This document discusses identifying and troubleshooting potential hardware problems with Cisco Catalyst Layer 2 fixed configuration 2900XL and 3500XL series switches.

## Prerequisites

### Requirements

Readers of this document should be knowledgeable of these topics:

- General system and power requirements.
- Proper installation procedure.
- Switch management.
- Software considerations for the Catalyst 2900XL and 3500XL switches.

Many hardware problems encountered at the time of field installations or at the time of normal operation can be prevented by a thorough product overview ahead of time.

### Components Used

The information in this document is based on these software and hardware versions:

- Catalyst 2900XL and 3500XL series switches

**Note:** This document is not specific to any Cisco IOS® Software Release.

### Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

## Troubleshoot General Switch Issues

### Troubleshoot LEDs

For troubleshooting switches based on LED information, refer to the documentation on these devices:

- Catalyst 2900XL
- Catalyst 3500XL

### Troubleshoot and Understand POST Failure Messages

Each time the switch is powered up, eight Power-On Self Tests (POSTs) run automatically. POSTs check the most important system components before the switch begins to forward packets. When the switch begins its POST, the port status LEDs display amber for two seconds followed by green. As each test runs, the port status LEDs go out, starting with 1x. The port status LEDs for ports 2x through 8x go out sequentially as the system completes a test.

When the POST completes successfully, the port status LEDs go out. This indicates that the switch is operational. If a test fails, the port status LED associated with the test displays amber. The system LED also displays amber.

**Note:** Beginning with Cisco IOS Software Release 11.2(8.5)SA6, the port and system LEDs both remain amber after a POST failure. In the earlier Cisco IOS Software Releases, only the LEDs of failed linked ports remained amber.

This table shows the LED and the component of the switch it corresponds to.

LED	Components Tested
1x	DRAM
2x	Flash memory
3x	Switch CPU
4x	System board
5x	CPU interface Application-Specific Integrated Circuit (ASIC)
6x	Switch core ASIC
7x	Ethernet controller ASIC
8x	Ethernet interfaces

At the time of the switch bootup sequence (cold start or by issuing the **reload** command), monitor the POST tests as they run through a console connection to the switch, as shown in this example:

```
!--- Output is suppressed.

C2900 POST: System Board Test: Passed
C2900 POST: CPU Buffer Test: Passed
C2900 POST: CPU Notify RAM Test: Passed
C2900 POST: CPU Interface Test: Passed
C2900 POST: Testing Switch Core: Passed
C2900 POST: Testing Buffer Table: Passed
C2900 POST: Data Buffer Test: Passed
C2900 POST: Configuring Switch Parameters: Passed
C2900 POST: Ethernet Controller Test: Passed
C2900 POST FAILURE: front-end post: FastEthernet0/2:
C2900 POST FAILURE: looped-back packet not received
C2900 POST FAILURE: front-end post: FastEthernet0/4:
C2900 POST FAILURE: looped-back packet not received
C2900 POST: MII Test: Passed

!--- Output is suppressed.
```

The output above shows one example of a failure on a Catalyst 2900XL switch at the time of the bootup sequence.

Alternatively, you can issue the **show post** command when the system runs to see if any port had failed a POST test. This command, available in Cisco IOS Software Release 11.2(8.5)SA6, checks if the POST tests passed. If there is a failure, it determines which POST test failed. This command is useful when you are able to get a link on a particular port, or the port LED is amber. For example, this output is from a Catalyst

2900XL which failed a POST test on FastEthernet interface 0/19:

```
2900XL# show post
POST FAILED: FastEthernet0/19 failed front-end loopback test
```

When there is no POST failure, you see this output. It is captured from a Catalyst 3500XL switch:

```
3512xl#show post
Passed
```

See the common reasons here for more information on POST failure messages.

## Common Reasons and Solutions

A POST failure usually means that there is physical damage to the interface. If an Ethernet Controller which controls four interfaces fails, it results in the failure of those ports. A common cause of such damage is ESD. For Catalyst 2900XL switches, the issue is documented in the Cisco bug ID CSCdm13915 [↗](#) (registered customers only) .

Failure of any of these diagnostic tests is normally fatal and usually requires a Return Material Authorization (RMA) to resolve the problem. To be sure of this, reset the switch with a console connection established and capture the actual bootup diagnostic information, then create a service request with Cisco Technical Support.

## Troubleshoot Fan Failures

Perform these actions if you suspect a fan failure:

1. Check the LEDs. If all of the LEDs are off, check the power to the switch. The fan may have failed due to a power problem.
2. Check the system LED. If it is amber, the system has detected a problem. This may indicate a fan problem if you cannot hear the fan operating. If you use a Catalyst 3524-PWR-XL, issue the **show env fan** command to check the fan for failure.

## Troubleshoot System Error Messages

System messages are used to report any errors encountered by the switch. They can appear in the command line interface (CLI) while you are connected to the switch (through the console or Telnet). Syslogs are also recorded in the switch's system message log. To display the system message log, issue the **show logging** command.

For syslog error message explanations and actions, refer to the documentation on:

- System Messages

## Troubleshoot High CPU

After you issue the **show processes cpu** command, the Catalyst 2900XL and Catalyst 3500XL switches report a high value for CPU utilization while idle. With other Cisco devices, high CPU utilization while idle is cause for concern. However, it is normal for Catalyst 2900XL and 3500XL switches. For more information, refer to:

- High CPU Utilization on Catalyst 2900XL/3500XL Switches

# Troubleshoot Expansion Slots in the Catalyst 2900XL

## Expansion Slot Module Is Not Working

Perform these actions to troubleshoot possible expansion slot problems:

1. Issue the **show version** command to ensure that the module ports are recognized by the switch. To ensure that the software you run supports the module, refer to the:
  - ◆ Release Notes for the Catalyst 2900 Series XL and Catalyst 3500 Series XL Switches, Cisco IOS Release 12.0(5)WC2
2. If you run the appropriate level of software and still the LED is amber, make sure that the module is seated properly and that the thumb screws are tightened on the module's front pane.
3. If the module still does not appear to be operational, try it in the other slot in the same switch or try it in another switch, if available.

## ATM Module Fails POST Tests

For troubleshooting steps, refer to:

- Understanding ATM Module POST Results

## ATM Module Has Corrupted Module Software

For troubleshooting steps, refer to:

- Recovering from Corrupted Module Software

## Password Recovery for the ATM Module

For troubleshooting steps, refer to:

- Recovering from a Lost or Forgotten Password

## Troubleshoot Interface Issues

### Workstation Unable to Log In to Network During Startup and Unable to Obtain a DHCP Address

When a client machine is powered up or rebooted, if you observe one of these symptoms, the problem can be due to an initial connectivity delay introduced by the switch.

- Microsoft networking client displays `No Domain Controllers Available`.
- Dynamic Host Configuration Protocol (DHCP) reports `No DHCP Servers Available`.
- A Novell Internetwork Packet Exchange (IPX) networking workstation does not have the **Novell Login Screen** upon bootstrap.
- An AppleTalk networking client displays `Access to your AppleTalk network has been interrupted. To re-establish your connection, open and close the AppleTalk control panel.` It is also possible that the AppleTalk client's chooser application either does not display a zone list, or displays an incomplete zone list.

- IBM network stations may have one of these messages:
  - ◆ NSB83619--Address resolution failed
  - ◆ NSB83589--Failed to boot after 1 attempt
  - ◆ NSB70519--Failed to connect to a server

These are common reasons for this problem, and the solutions to recover from it.

### Common Reasons and Solutions

The reasons for the above symptoms can be due to an interface delay caused by Spanning Tree Protocol (STP), EtherChannel, Trunking, or auto-negotiation delay. For more information about these delays and solutions for them, refer to:

- Using Portfast and Other Commands to Fix Workstation Startup Connectivity Delays

If you still have issues after you review and follow the procedure in this document, contact Cisco Technical Support.

### Troubleshoot NIC Compatibility Issues

When a server or client connection to the switch is either not coming up, you have an autonegotiation issue, or you are seeing errors on the port, you may be having a Network Interface Card (NIC) compatibility or misconfiguration issue with the switch.

These are common reasons for this problem, and the solutions to recover from it.

### Common Reasons and Solutions

The reasons for the above symptoms can be a known NIC driver issue, a speed and duplex mismatch, autonegotiation, or cabling problems. For more information on troubleshooting these problems, refer to:

- Troubleshooting Cisco Catalyst Switches to NIC Compatibility Issues

### Troubleshoot Interface Errors

If you experience slow performance or intermittent connectivity, it may be due to interface errors. Issue the **show controllers ethernet-controller** command in order to check for interface errors for the port you troubleshoot. This command is explained in detail in the Diagnostic Commands section of this document.

Also issue the **show interface** command, which is also explained in detail in the Diagnostic Commands section. For additional information on each counter and possible causes, refer to:

- Understanding Data Link Errors

This table lists some of the known issues with counters on the Catalyst 2900XL and 3500XL series switches.

Symptom	Description	Fix or Workaround
Runts on a 802.1Q trunk	A Catalyst 2900XL or 3500XL that receives a 64	Cisco IOS Software Release

port.	<p>or 66 byte 802.1Q encapsulated frame on a trunk port counts the frame as a runt. However, it continues to forward the frame. This issue is commonly seen when you connect Cisco 7960 IP phones to the switch when using auxiliary (voice) VLANs.</p> <p>This issue is cosmetic, and is due to an ASIC limitation. It should not cause any degradation in the performance of the switch. For more information, refer to Cisco bug ID CSCds32999 <a href="#">☞</a> (registered customers only) .</p>	12.0(5.4)WC1 or later
Cyclic Redundancy Check (CRC) on an Inter-Switch Link (ISL) trunk port.	<p>A Catalyst 3500XL or 2900XL Enterprise switch, with ISL trunking to the Fast Ethernet interface of a 7200-I/O-FE, 7500 PA-FE-TX, 3600 or 2600, or KeepAlive Link State Packets (LSP) marked as CRC/Input errors on the switch. There is no performance impact caused by these errors.</p> <p>For more information, refer to Cisco bug ID CSCdr22809 <a href="#">☞</a> (registered customers only) .</p>	The workaround is to disable KeepAlive on the router or use 802.1Q trunking. No fix is available.
CRC on an ISL trunk port connecting to a Catalyst 5500/5000 or 6500/6000 series switch.	Trunking between a Catalyst 2900XL and a Catalyst 5500/5000 or 6500/6000, with trunking negotiation through Dynamic Trunking Protocol (DTP) enabled on the Catalyst 5500/5000, causes CRC errors to be reported on the 2900XL due to the reception of non-ISL (DTP) packets. DTP or Dynamic Inter-Switch Link	The workaround is to use the nonegotiate trunk mode on the Catalyst 5500/5000, so that DTP does not run . No fix is available.

	<p>Protocol (DISL) sends out Protocol Data Units (PDUs) with both ISL and non-ISL encapsulated frames in order to speed up recovery from an out-of-sync situation (one side trunk, the other is not) for the hardware.</p> <p>For more information, refer to Cisco bug ID CSCdm31600 <a href="#">↗</a> (registered customers only) . Also, refer to Cisco bug ID CSCdr72128 <a href="#">↗</a> (registered customers only) for a variation of this issue.</p>	
<p>Giants on ISL or 802.1Q trunk ports.</p>	<p>When a legal max-size Ethernet frame encapsulated or tagged for ISL or 802.1Q is received on a Catalyst 2900XL, and the packet is not forwarded to any other ports, the frame is counted as an oversize frame in the statistics counters.</p> <p><b>Note:</b> There are many valid reasons for a packet to be received and not forwarded to any other ports. For example, packets received in a port blocked by STP are not forwarded.</p> <p>For more information, refer to Cisco Bug ID CSCdm34557 <a href="#">↗</a> (registered customers only) .</p>	<p>There is no workaround for this bug. It is cosmetic only and can be ignored with switch performance</p>

problems. No fix is available.

## Getting a CDP-4-DUPLEX\_MISMATCH Error Message on an ISL Trunk Port on a C3524-PWR-XL

If you get a CDP-4-DUPLEX\_MISMATCH error message on an ISL trunk port on a Catalyst 3524-PWR-XL, refer to these common reasons for this problem, and the solutions to fix it.

## Common Reasons and Solutions

- Make sure you have configured both sides with the same duplex. Typically, trunk ports are configured as full duplex links. Make sure both sides are auto–negotiating correctly. Hardcoding on one side and auto–negotiating on the other side causes a half–duplex configuration on the auto–negotiating side of the link. Issue the **show interface *interface id*** command to check the duplex status.
- You may be running into Cisco bug ID CSCdx85015 [↗](#) (registered customers only) . The workaround for this bug is to issue the **no power inline never** interface configuration command. The fix for the bug is available in Cisco IOS Software Release 12.0(5)WC5a or later.

## Troubleshoot GBIC Issues

### 1000BASE–T GBIC Is Not Recognized or Working

- If you have a 1000Base–T Gigabit Interface Converter (GBIC) and it is not recognized or not working, refer to this document to verify software support for the GBIC:
  - ◆ 1000BASE–T GBIC Switch Compatibility Matrix
- If you run the appropriate level of software but the link still does not work, refer to the:
  - ◆ Connector and Cable Specifications

### GigaStack GBIC Is Not Recognized or Work Properly

- If you have a GigaStack GBIC and it is not recognized or not working, refer to this document to verify software support for the GBIC:
  - ◆ Catalyst GigaStack Gigabit Interface Converter Switch Compatibility Matrix
- If you run the appropriate level of software but the link still does not work, refer to this document for more troubleshooting based on the LED status:
  - ◆ Troubleshooting GigaStack

### GigaStack GBIC Link Flaps and Never Stabilizes

If your GigaStack GBIC link flaps and never stabilizes, refer to the *Link Flaps and Never Stabilizes* section of this document:

- Catalyst Switch GigaStack Configuration and Implications

### Troubleshoot GigaStack GBIC Based on LED Status

If your GigaStack GBIC Interface LED is not solid green (indicating normal function), refer to this document for troubleshooting based on your LED status:

- Troubleshooting GigaStack

### Troubleshoot GigaStack GBIC Loop Configuration

The GigaStack GBIC loop configuration is not supported in releases earlier than Cisco IOS Software Release

12.0(5)XU. Earlier releases cause excessive collision errors on the port and might cause the link to become unstable. This instability decreases performance on the links. Communication between the switches in the stack is adversely affected. Therefore, the loop configuration is supported only if every device in the stack runs Cisco IOS Software Release 12.0(5)XU or later.

Refer to the *Cabling Configuration* section of:

- Catalyst Switch GigaStack Configuration and Implications

Refer to this document for a visual description of valid and invalid configurations:

- GBIC Loop Configurations not Supported Before IOS Software Release 12.0(5)XU

The GigaStack GBIC module is used to create a 1 Gbps stack configuration of up to nine supported switches. The GigaStack GBIC supports one full-duplex link (in a point-to-point configuration) or up to nine half-duplex links (in a stack configuration) to other GigaStack-compatible Ethernet devices. If you use the required Cisco proprietary signaling and cabling, the GigaStack GBIC-to-GigaStack GBIC connection does not exceed three feet (or one meter).

## **NO\_LOOP\_DETECT System Error Message with GigaStack GBIC**

If you receive the `NO_LOOP_DETECT, GIGASTACK, LOG_ALERT, 0, The link neighbor of link %d of GigaStack` system message and would like to understand or troubleshoot, refer to the *Error Message: NO\_LOOP\_DETECT* section of:

- Catalyst Switch GigaStack Configuration and Implications

## **GIGASTACK-6-LOOP\_DETECTED System Error Message with GigaStack GBIC**

If you receive the `%GIGASTACK-6-LOOP_DETECTED: Gigastack GBIC in is selected as Master Loop Breaker` system message and would like to understand or troubleshoot, refer to the *Message: %GIGASTACK-6-LOOP\_DETECTED* section of:

- Catalyst Switch GigaStack Configuration and Implications

## **Troubleshoot Console Connectivity Problems**

This section explains troubleshooting strategies for console connectivity problems.

### **Unreadable Characters on the Management Console**

Unreadable characters are typically caused by an incorrect baud rate setting on the management console.

To correct this problem, reset the emulation software on the management console to 9600 baud (the default console baud rate of the switch). If this does not work, cycle through the various baud rate options on the management console until you find one that works. The switch baud rate may have been changed from the default.

## No Connectivity Through the Console

Check this connectivity equipment.

- Make sure that the management console line is connected to the console port on the switch.
- Make sure that the correct cable and connector are used. For more information, refer to:

- ◆ Connecting a Terminal to Catalyst 2900/3500 XL Switches

## Troubleshoot General Software Issues

### Recover from Missing or Corrupted Software or Switch: Prompt

If your switch misses software, has a corrupted software image, is in Switch: prompt mode, or you get an "Error Loading Flash" error message and you need to recover the switch, refer to the:

- Recovery From Corrupt or Missing Software Image on Cisco Catalyst 2900XL and 3500XL Series Switches

### Troubleshoot Cisco Visual Switch Manager or Cluster Management Suite

If you have problems with your Cisco Visual Switch Manager or Cluster Management Suite, refer to this document for troubleshooting procedures (including Java and browser requirements):

- Troubleshooting Cisco Visual Switch Manager or Cluster Management Suite Access on the Catalyst 2900XL/3500XL/2950 Switch

### Hardware and Software Compatibility or Software Feature Support

To find what software level is needed to support a certain hardware or software feature, refer to these documents:

- 1000BASE-T GBIC Switch Compatibility Matrix
- Catalyst GigaStack Gigabit Interface Converter Switch Compatibility Matrix
- Minimum Cisco IOS Release for Major Features

### Recover Lost Password

If you need to recover a lost password, refer to:

- Password Recovery Procedure for the Catalyst Layer 2 Fixed Configuration and 3550 Series Switches

### Diagnostic Commands

- **show interface**
- **show controllers ethernet-controller**
- **show env fan**
- **show logging**

## show interface

Enter the **show interface** command to check for speed and duplex settings, error counters, input and output queues, input and output rates, and to display the administrative and operational status of the interface. Use the `packets input` and `packets output` fields (from the output) to determine if traffic is entering or leaving the interface.

```
switch#show interface
```

```
FastEthernet0/1 is down, line protocol is down
Hardware is Fast Ethernet, address is 00d0.5868.f181 (bia 00d0.5868.f181)
MTU 1500 bytes, BW 0 Kbit, DLY 0 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive not set
Full-duplex, 100Mb/s, 100BaseTX/FX
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output 3w6d, output hang never
Last clearing of "show interface" counters 2w6d
Queueing strategy: fifo
Output queue 0/40, 0 drops; input queue 0/75, 0 drops
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
0 packets input, 0 bytes
Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
0 watchdog, 0 multicast
0 input packets with dribble condition detected
0 packets output, 0 bytes, 0 underruns
0 output errors, 0 collisions, 0 interface resets
0 babbles, 0 late collision, 0 deferred
0 lost carrier, 0 no carrier
0 output buffer failures, 0 output buffers swapped out
```

Listed here are the counters that are relevant in troubleshooting a problem on the interface.

### Input Errors

`Input errors` provide a count of any errors that occurred while trying to receive packets from this port. The counter includes both CRC and frame errors. However, it does not include ignored packets. This is a list of input errors:

- **CRC Errors:** Occur when the received packets fail the CRC check.
- **Frame Errors:** Occur when the receiving frame is not complete.
- **Ignored Counter:** Counts the number of frames dropped on input due to resource exhaustion in the switch fabric.
- **Overruns Counter:** Occurs when Inter-Frame Gaps (IFG) are too short. In this case, a new Ethernet frame arrives before the previous one is completely stored in shared memory.

### Output Errors

`Output errors` provide a count of any error that occurred while trying to transmit packets from this port.

- **Collisions Counter:** Shows the number of times a collision occurred while trying to transmit a packet from this port. This counter should be 0 for a port that operates in full-duplex mode.
- **Interface Resets Counter:** Counts the number of times the port resets itself, generally due to link up or link down transitions.

- **Underruns Counter:** Occurs when packets are not retrieved quickly enough from shared memory to be transmitted.

## Babbles and Late Collisions

Babble errors are caused by the transmission of frames in excess of 1518 bytes in size. A late collision is a collision that occurs outside of the collision window. This is typically caused by a duplex mismatch or a wire that exceeds the distance limitations (100 meters for 10/100 ports). The deferred counter tabulates the number of times the port waits to transmit due to traffic on the wire.

## Lost Carrier and No Carrier

A carrier is an electrical signal that Ethernet devices use to detect if the wire is currently being used by another transmitting station. The `lost carrier` counter increases when the carrier sense loss occurs when the hardware transmits a frame onto the wire and does not see its own carrier wave on the Ethernet. Absence of the carrier signal increments the `no carrier` counter.

## show controllers ethernet-controller

The `show controllers ethernet-controller` command provides in-depth information about a specific interface as shown here:

```
Switch# show controllers ethernet-controller fa0/4

Transmit                               Receive
26869777 Bytes                          402753236 Bytes
460 Unicast frames                       1 Unicast frames
45408 Multicast frames                   198165 Multicast frames
12207 Broadcast frames                   0 Broadcast frames
Discarded frames                         0 No bandwidth frames
Too old frames                           0 No buffers frames
Deferred frames                           0 No dest, unicast
0 1 collision frames                     0 No dest, multicast
0 2 collision frames                     0 No dest, broadcast
0 3 collision frames                       1 Alignment errors
0 4 collision frames                       0 FCS errors
0 5 collision frames                       0 Collision fragments
0 6 collision frames
0 7 collision frames                       0 Undersize frames
0 8 collision frames                     198166 Minimum size frames
0 9 collision frames                       65 to 127 byte frames
0 10 collision frames                      28 to 255 byte frames
0 11 collision frames                      256 to 511 byte frames
0 12 collision frames                      512 to 1023 byte frames
0 13 collision frames                      1024 to 1518 byte frames
0 14 collision frames                       0 Oversize frames
0 15 collision frames
0 16 Excessive collisions                 1102 Late collisions
```

Most of the fields in the output are self-explanatory. Platform-specific counters are explained in this table:

Fields	Explanation	Action
Discarded frames	The total number of frames whose transmission attempt is abandoned due to insufficient resources (such as underrun).	Reduce the traffic load destined to that interface

	This total includes frames of all destination types.	if you see an increasing number of packets in this field.
Too old frames	Number of frames that took longer than two seconds to travel through the switch. For this reason, they were discarded by the switch. This only happens under extreme, high stress conditions.	Reduce the switch load if you see an increasing number of <del>packets in this</del> field.
Deferred frames	The total number of frames whose first transmission attempt had to be delayed due to traffic on the network media. This total includes only those frames that are subsequently transmitted without error and without experiencing a collision.	Reduce the switch load if you see an increasing number of <del>packets in this</del> field.
No bandwidth frames and No buffers frames	The number of times that a port received a packet from the network. However, the switch does not have the resources to receive it. This only happens under stress conditions, but can happen with bursts of traffic on several ports. So, a small number in the No bandwidth frames field is not a cause for concern. (It still should be far less than 1 percent of the frames received.)	Reduce the traffic load on the particular interface.
No dest, unicast	Number of times that a unicast packet is received. The port determines that the packet should not be forwarded to any other ports.	See below.
No dest, multicast	Number of times that a multicast packet is received. The port determines that the multicast packet should not be forwarded to any other ports.	See below.
No dest, broadcast	Number of times that a broadcast packet is received.	See below.

The port determines that the broadcast packet should not be forwarded to any other ports.
---

This is a brief description of example scenarios to receive an increase in the `No dest` counter.

- If a port is blocked by STP, most packets are not forwarded. This results in `No dest` packets.
- If a port just acquired a link, there is a very brief (less than one second) period where incoming packets are not forwarded.
- If a port is an access port, and the port is connected to an ISL trunk port, the `No dest` counter are very large. All the incoming ISL packets are not forwarded. This is an invalid configuration.
- If the port is in a VLAN by itself, and no other ports on the switch belong to that VLAN, incoming packets are dropped.
- A packet is received on port A, with destination MAC address X. The switch has already learned that the MAC address X resides on port A. This happens if a hub is connected to port A. One workstation connected to the hub transmits packets to another workstation connected to the hub. It also happens if a switch is connected to port A, and the other switch is temporarily flooding packets to all ports while it learns the addresses.
- If a static address is set up on another port in the same VLAN, and no static address is set up for the receiving port, the packet is dropped. For example, if a static address is set up specifying that if the destination MAC address X is received on port f0/2, the packet should be forwarded to port f0/3. If a packet with the destination MAC address X is received on any port other than f0/2, but in the same VLAN as f0/2, the packet is dropped.
- If the port is a secure port, packets with disallowed source MAC addresses are not forwarded.

## show env fan

The **show env fan** command is applicable only to the Catalyst 3524PWR–XL switches. It helps to identify if the system fan is faulty, and if so replace the switch.

```
Switch# show env fan
FAN 1 is OK

FAN 2 is OK

FAN 3 is OK

FAN 4 is OK

FAN 5 is OK
```

## show logging

The **show logging** command helps to check the logged system messages. Make sure the logging is enabled if you do not see any messages in the output of this command, in the console, or in the syslog server. Enable timestamps by issuing the **service timestamps** global configuration command.

```
3500XL>show logging
Syslog logging: enabled (0 messages dropped, 0 flushes, 0 overruns)
Console logging: level debugging, 102 messages logged
Monitor logging: level debugging, 0 messages logged
Buffer logging: level debugging, 102 messages logged
File logging: disabled
Trap logging: level informational, 108 message lines logged
```

```
Log Buffer (4096 bytes):
by console
00:09:55: %LINK-3-UPDOWN: Interface FastEthernet0/48, changed state to down
00:09:56: %LINEPROTO-5-UPDOWN:
    Line protocol on Interface FastEthernet0/48, changed state to down
00:13:30: %SYS-5-CONFIG_I: Configured from console by console
00:50:27: %CMP-CLUSTER_MEMBER_2-5-ADD:
    The Device is added to the cluster (Cluster Name:
    CH-3500-8, CMDR IP Address 10.10.10.101)
1w3d: %SYS-CLUSTER_MEMBER_2-5-CONFIG_I: Configured from console by console
3500XL>
```

## NetPro Discussion Forums – Featured Conversations

Networking Professionals Connection is a forum for networking professionals to share questions, suggestions, and information about networking solutions, products, and technologies. The featured links are some of the most recent conversations available in this technology.

NetPro Discussion Forums – Featured Conversations for LAN
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## Related Information

- [Catalyst 2900 Series XL Release Notes](#)
- [Catalyst 3500 Series XL Release Notes](#)
- [LAN Product Support Pages](#)
- [LAN Switching Support Page](#)
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